I. C. 7050 JANUARY 1939

UNITED STATES
DEPARTMENT OF THE INTERIOR
HAROLD L. ICKES, SECRETARY

BUREAU OF MINES
JOHN W. FINCH, DIRECTOR

INFORMATION CIRCULAR

MINE SAFETY BOARD DECISION 30

MAIN FAN INSTALLATIONS AT COAL MINES

BY

MINE SAFETY BOARD

AFTER THIS REPORT HAS SERVED YOUR PURPOSE AND IF YOU HAVE NO FURTHER NEED FOR IT, PLEASE RETURN IT TO THE BUREAU OF MINES, USING THE OFFICIAL MAILING LABEL ON THE INSIDE OF THE BACK COVER.

Generated on 2024-09-18 08:11 GMT / https://hdl.handle.net/2027/osu.32435030643993
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from THE OHIO STATE UNIVERSITY

I.C. 7050,
January 1939.

INFORMATION CIRCULAR

UNITED STATES DEPARTMENT OF THE INTERIOR - BUREAU OF MINES

MINE SAFETY BOARD DECISION 30[1/2/]

MAIN FAN INSTALLATIONS AT COAL MINES

In the interest of safety in coal mining, the Bureau of Mines recommends:

> That all active underground coal mines, whether working or idle, have one or more fans in continuous operation. The capacity and installation shall be such that the entire mine workings are adequately ventilated at all times. Main fans shall be located on the surface in fireproof housing offset from the line of any mine opening. The housing shall be provided with ample pressure-relief doors or other devices easily opened by the force of an explosion. The installation shall permit prompt reversal of air flow. For mines that liberate gas, the fan shall have at least two independent sources of power immediately applicable.

Ventilation of underground workings in coal mines is needed whether or not explosive gas is present. Natural ventilation is unreliable and often uncontrollable. Main fans should be on the surface; if they are in the mine, fire or explosion may make access difficult or dangerous and render the installation inoperative.

Many fans in combustible surroundings have been put out of service by fires, causing extensive loss of life and property. A surface fan in the direct line of the mine opening and close to that opening is likely to be damaged or destroyed by an explosion, thus greatly handicapping subsequent rescue operations. Where the fan is offset from the direct line of the mine opening and the fan housing or approach has suitable relief by doors or an easily moved roof or walls, the fan usually is protected from serious damage and so may be put into effective operation with little or no delay after an explosion.

1/ The Bureau of Mines will welcome reprinting of this paper, provided the following footnote acknowledgment is used: "Reprinted from Bureau of Mines Information Circular 7050."

2/ To reduce differences of opinion and to obtain a generally acceptable decision on any question, the Director of the Bureau of Mines established a Mine Safety Board by order dated May 20, 1924 (effective June 1, 1924) - "*** to consider questions arising within any divisions of the Bureau that require a definition of the Bureau's collective opinion as to safety practices, safety devices, or safety methods for underground operations or open-pit mining. .... The approved decisions shall form the basis of teaching and policy for the Bureau."

Generated on 2024-09-18 08:14 GMT / https://hdl.handle.net/2027/osu.32435030643993
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from THE OHIO STATE UNIVERSITY

Should the flow of air be decreased, dangerous gases may accumulate; consequently all sources of ignition should be eliminated, so far as practicable; and if the interruption to normal ventilation is continued more than a few minutes, all underground employees should be removed from the mine. When normal ventilation is restored it should be continued at least 2 hours before anyone enters the mine. The mine should then be thoroughly inspected by competent persons and adjudged safe before electricity is turned into the mine circuits and others are allowed to enter. Serious accidents have occurred in the past through failure to observe these precautions.

If a fan operator is not in continuous attendance, it is desirable to equip fan installations with dependable automatic warning devices that operate when the flow of air to or from the mine is diminished below predetermined safe requirements. The fan installation should permit prompt reversal of air flow when necessary; the direction of air flow should not, however, be changed except under written order from some duly constituted official who has given careful consideration to the probable effects of the change. Some fans are provided with mechanisms for the reversal of air flow; in other settings, suitably placed doors in the fan approach and housing are utilized. In general, it is preferable to operate the fan exhausting.

Failure to have a stand-by source of power quickly applicable to the main fan in an emergency has resulted in considerable loss of life; the prompt use of a second source of power or of a secondary fan unit has prevented many fatalities. For very gassy mines a separate stand-by fan installation should be provided.

RECOMMENDED, December 15, 1938,
MINE SAFETY BOARD.

APPROVED, January 11, 1939,
JOHN W. FINCH,
Director.

Generated on 2024-09-18 08:10 GMT / https://hdl.handle.net/2027/osu.32435030643993
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from THE OHIO STATE UNIVERSITY